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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 8271-6-4 (1988): Quartz crystal units used for frequency control and selection, Part 6: Series BF for Oscillators, Section 4: Quartz crystal unit type BF-04 [LITD 5: Semiconductor and Other Electronic Components and Devices]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard
SPECIFICATION FOR
QUARTZ CRYSTAL UNITS USED FOR FREQUENCY
CONTROL AND SELECTION
PART 6 SERIES BF FOR OSCILLATORS
Section 4 Quartz Crystal Unit Type BF-04

0. General — This standard shall be read in conjunction with IS : 8271 (Part 1)-1981 'Specification for quartz crystal units used for frequency control and selection: Part 1 General requirements and tests (first revision)'.

1. Outline and Dimensions — Holder outline shall conform to Type BF [see IS : 4570 (Part 5)-1984 'Specification for crystal unit holders: Part 5 Metal, solder seal, two-wire crystal unit holders Types BF, BF/1 and BG, BG/1].

2. Marking — See 8 of IS : 8271 (Part 1)-1981.

3. Construction and Workmanship — See 7 of IS : 8271 (Part 1)-1981.

4. Test Schedule and Detail Requirements

4.1 General Conditions for Test — See 9.2 of IS : 8271 (Part 1)-1981.

4.2 Test Schedule — The sequence and grouping of type, routine and acceptance tests shall be in accordance with 9.1 of IS : 8271 (Part 1)-1981.

4.3 Detail Requirements — The detail requirements applicable to this particular type of crystal unit shall be as specified in Table 1.

TABLE 1 DETAIL REQUIREMENTS OF QUARTZ CRYSTAL UNIT TYPE BF-04

Characteristic	Requirement
a) Type of holder	BF (see 1)
b) Frequency range	10 to 61 MHz
c) Frequency tolerance	±10 ppm ±70 ppm
1) Operating temperature range	±10 ppm
2) Room temperature	±70 ppm
d) Frequency stability	±2.5 ppm
e) Load capacitance	Infinity
f) Mode of oscillation	Third mechanical overtone
g) Reference temperature	75 ± 1°C
h) Temperature range	70 to 80°C -55 to + 70°C and 80 to 90°C
1) Operating	70 to 80°C
2) Operable	-55 to + 70°C and 80 to 90°C
j) Test set, calibration values and rated drive level	See Table 2
k) Capacitance shunt	7 pF, <i>ax</i>
m) Resonance resistance	40 ohms, <i>Max</i>
n) Shock [As 9.15 (severity A) of IS : 8271 (Part 1)-1981]	±5 ppm ±10 percent
1) Frequency change permitted	±5 ppm
2) Resonance resistance change permitted	±10 percent
p) Vibration [As in 9.16.1 (severity A) of IS : 8271 (Part 1)-1981]	±5 ppm ±10 percent
1) Frequency change permitted	±5 ppm
2) Resonance resistance change permitted	±10 percent
q) Ageing	
Frequency change permitted	5 ppm

TABLE 2 TEST SET, CALIBRATION VALUES AND RATED DRIVE LEVEL
 [See Table 1 (j)]

SI No.	Frequency Specified MHz	Calibration Values		Rated Drive Level mW	Test Set (6)
		Resistance Ohms	Resistor Voltage Drop Volts		
(1)	(2)	(3)	(4)	(5)	
1.	10 to 15	60	0.35	2.0 ± 0.4	
2.	Over 15 to 25	40	0.28	2.0 ± 0.4	
3.	Over 25 to 61	40	0.20	1.0 ± 0.2	TS-683/TSM

EXPLANATORY NOTE

This standard (Part 6/Sec 4) covers the requirements of crystal unit, quartz, style QC-28 of JSS 50908 (1971) 'Detail specification for crystal unit, quartz, styles QC-27 and QC-28', issued by the Directorate of Standardization, Ministry of Defence (India).